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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,871	02/05/2004	Gerald H. Nesbit	WIC002USU	7232

45180 7590 04/03/2007
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EXAMINER

PHAM, TUAN

ART UNIT	PAPER NUMBER
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2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/773,871	Applicant(s) NESBIT ET AL.	
	Examiner TUAN A. PHAM	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, and 5-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Applicant's remark, filed on 02/21/2007, with respect to the rejection(s) of claim(s) 1-14 under 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made over Nilsson et al. (US Pub. No.: 2003/0122719) in view of Dean (Patent No.: 6,091,970).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-3, and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsson et al. (US Pub. No.: 2003/0122719, hereinafter, "Nilsson) in view of Dean (Patent No.: 6,091,970).

Regarding claim 1, Nilsson wireless unlicensed band radio system for use in maritime applications, said system comprising at least three sector antennas configured so as to provide continuous coverage in 360 degrees of rotation (see figure 2, antennas 20, 22, 24, sector 1 is defined in the region between antennas 20 and 22, sector 2 is defined in the region between antennas 22 and 24, sector 3 is defined in the region between antennas 24 and 20. Antennas 20, 22, 24 are cover 360 degrees, [0046-0048), said antennas each being connected to a wireless fidelity radio (read on transceiver 16 of figure 3) and serving to transmit and receive information from and to said radio (see 0046-0048).

It should be noticed that Nilsson fails to teach a primary RF port and a secondary RF port, and further including a passive two-way power divider incorporated in said primary RF port. However, Dean teaches a primary RF port (see figure 3, transmitter port 212) and a secondary RF port (see figure 3, main receive port 214), and further including a passive two-way power divider incorporated in said primary RF port (see figure 3, power splitter 240, col.6, ln.1-19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Dean into view of Nilsson in order to provide the signal to multiple antennas.

Regarding claim 2, Nilsson further teaches each of said sector antennas provides a minimum of 120 degrees of coverage (see figure 2 and explanation in claim 1).

Regarding claim 3, Nilsson further teaches each of said antennas are configured at a 120 degree angular separation from the other two antennas (see figure 2 and explanation in claim 1).

Regarding claim 5, Dean further teaches two of said antennas are connected to said power divider and the third of said antennas is connected to said secondary RF port, wherein said power divider and said secondary RF port each provide driving signals to said antennas (see figure 5, antennas 152, 154, 156, transmit port 212, main receive port 214, col.6, ln.1-19).

Regarding claim 6, Dean further teaches each of said antennas is connected to said wireless unlicensed band radio by a separate amplification path (see figure 2, each antennas 152 is included transmitter and receiver, 154 is included transmitter and receiver, 156 is included transmitter and receiver).

Regarding claim 7, Dean further teaches a solid state transmit and receive amplification unit incorporated in each of said amplification paths(see figure 2, each antennas 152 is included transmitter and receiver, 154 is included transmitter and receiver, 156 is included transmitter and receiver).

Regarding claim 8, Dean further teaches said transmit and receive amplification units comprise a transmitter, a receiver and a solid state switch for selecting the

operation of said transmitter and said receiver (see figure 4, switch 280 is switching between the transmission and reception).

4. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsson et al. (US Pub. No.: 2003/0122719, hereinafter, "Nilsson") in view of Dean (Patent No.: 6,091,970) as applied to claim 1 above, and further in view of Shields et al. (U.S. Patent No.: 7,043,280, hereinafter, "Shields").

Regarding claim 9, Nilsson and Dean, in combination, fails to teach a voltage converter to supply the proper bias condition for said wireless unlicensed band radio. However, Shields teaches such features (see figure 1, transformer 102 convert the AC power from 107).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Shields into view of Nilsson and Dean in order to provide the low voltage to the subscriber station.

Regarding claim 10, Shields further teaches power distribution circuitry, said circuitry directing DC power to said amplification units and said voltage converter (see col.6, ln.20-29).

Regarding claim 11, Shields further teaches said sector antennas, said amplification units, said wireless fidelity radio, and said power distribution circuitry are all enclosed within an environmentally sealed radome (see figure 2, col.4, ln.55-65).

Regarding claim 12, Nilsson, Dean, and Shields, in combine, disclose the claimed invention but fail to disclose unlicensed band radio is connected to a network

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interface by means of two sets of CAT-5 cable. However, Examiner takes Official Notice of the fact that it is notoriously well known in the art that CAT-5 cable is used to provide high signal integrity. Therefore it would be obvious to one of ordinary skill in the art to combine the teachings of Nilsson, Dean, and Shields for the purpose of providing high signal integrity.

Regarding claim 13, Shields further teaches said DC power is distributed to said amplification units and said voltage converter by a single pair of shielded 12 gauge wire (see figure 1, power cable).

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsson et al. (US Pub. No.: 2003/0122719, hereinafter, "Nilsson) in view of Dean (Patent No.: 6,091,970) and further in view of Shields et al. (U.S. Patent No.: 7,043,280, hereinafter, "Shields").

Regarding claim 14, Nilsson wireless unlicensed band radio system for use in maritime applications, said system comprising at least three sector antennas configured so as to provide continuous coverage in 360 degrees of rotation (see figure 2, antennas 20, 22, 24, sector 1 is defined in the region between antennas 20 and 22, sector 2 is defined in the region between antennas 22 and 24, sector 3 is defined in the region between antennas 24 and 20. Antennas 20, 22, 24 are cover 360 degrees, [0046-0048), said antennas each being connected to a wireless fidelity radio (read on transceiver 16 of figure 3) and serving to transmit and receive information from and to said radio (see 0046-0048).

It should be noticed that Nilsson fails to teach a primary RF port and a secondary RF port, and further including a passive two-way power divider incorporated in said primary RF port, said antennas each being connected to said wireless unlicensed band radio by a separate amplification path, wherein two of said antennas are connected to said power divider and the third of said antennas is connected to said secondary RF port, wherein a solid state transmit and receive amplification unit is incorporated in each of said amplification paths, said unit comprising a transmitter, a receiver and a solid state switch for selecting the operation of said transmitter and said receiver . However, Dean teaches a primary RF port (see figure 3, transmitter port 212) and a secondary RF port (see figure 3, main receive port 214), and further including a passive two-way power divider incorporated in said primary RF port (see figure 3, power splitter 240, col.6, ln.1-19), said antennas each being connected to said wireless unlicensed band radio by a separate amplification path (see figure 2, each antennas 152 is included transmitter and receiver, 154 is included transmitter and receiver, 156 is included transmitter and receiver), wherein two of said antennas are connected to said power divider and the third of said antennas is connected to said secondary RF port (see figure 5, antennas 152, 154, 156, transmit port 212, main receive port 214, col.6, ln.1-19), wherein a solid state transmit and receive amplification unit is incorporated in each of said amplification paths (see figure 2, each antennas 152 is included transmitter and receiver, 154 is included transmitter and receiver, 156 is included transmitter and receiver), said unit comprising a transmitter, a receiver and a solid state switch for

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selecting the operation of said transmitter and said receiver (see figure 4, switch 280 is switching between the transmission and reception).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Dean into view of Nilsson in order to provide the signal to multiple antennas.

Nilsson and Dean, in combination, fails to teach an environmentally sealed radome within which said sector antennas, said amplification units and said wireless unlicensed band radio are enclosed and protected. However, Shields teaches such features (see figure 2, col.4, ln.55-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Shields into view of Nilsson and Dean in order to protect all the electrical components from the bad weather.

Conclusion

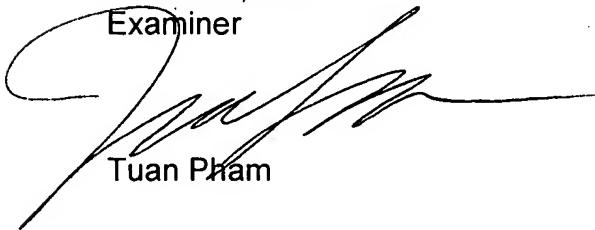
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A. Pham whose telephone number is (571) 272-8097. The examiner can normally be reached on Monday through Friday, 8:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit 2618
March 29, 2007
Examiner

A handwritten signature in black ink, appearing to read 'Tuan Pham', written over the printed name.

Tuan Pham

Supervisory Patent Examiner
Technology Center 2600

A handwritten signature in black ink, appearing to read 'Matthew Anderson', written over the printed name.

Matthew Anderson